FEDERAL SECURITY AGENCY
PUBLIC HEALTH SERVICE

N REPLYING, ADDRESS THE

Tuberculosis Research Laboratory,
411 East 69th St., New York 21, N. Y.

July 28, 1951.

Dr. Joshua Lederberg,
Department of Genetics,
The University of Wisconsin,
College of Agriculture,
Madison 6, Wisconsin.

Dear Joshua:

Under separate cover I am sending you eight temperature-sensitive strains with double amino acid markers. I am enclosing a key to their requirements and a description of their characteristics, such as stability and leakiness.

These strains were tested for their ability to recombine against W677, and unfortunately none of them ~~could use~~ produced any recombinants, either on Medium A at room temperature, or on pantothenate at 37°. Concomitantly, all of these strains except one had become more absolute for their pant requirement, growing more slowly than the original parent on A at room temperature. ~~With~~ one exception, the his^{-}met mutant grows well at room temperature but also does not recombine. In previous experiments the parents of these strains had been found to produce recombinants with W677, especially the h2 parent. In each of these crosses a control cross 58-161 x W677 was run and produced a fair number of recombinants ~~in each case~~. (It seems to me that this sterility effect in these temperature-sensitive mutants may be connected with their more stringent pant requirement.)

In several penicillin (4) experiments I have tried to select a ts pant mutant in either 58-161 or W677, but without success. In view of this sad situation I have decided not to come to Wisconsin at the present time after all.

I would be very much interested to see if you have any better luck in crosses involving the ts strains. If you are successful, I don't see why these strains could not be used for determining the ts pant locus. Since I am planning to go out West during August anyway I will give you my schedule, just in case by some miracle the picture should brighten; I could then still drop in at your lab. Tomorrow I am going to Lake Placid for a week and will be back on August 6th in the laboratory here to pick up mail. On the same day I am leaving for Colorado, probably Boulder, and intend to stay there until August 25th. After that I shall come back to New York. I doubt very much if anything hopeful will turn up between now and August 6th, but if things should look better toward the end of August I could visit you on my return from Colorado. After I get back here I intend to continue to look for ts pant

mutants in 58-161 and W677 and hope that eventually I will obtain such a mutant. It seems to me most sensible to wait until ~~you~~ we have this mutant in your stocks. You might also send me the W677 strain which we don't have in our laboratory. There is no reason why I could not come out to Wisconsin at some later date such as Christmas or Easter.

We don't have any di-auxotrophs in strain B, but do have quite a few in the W strain which we will be glad to send to you.

Some time ago I wrote to Norton about the aspartic acid/β-alanine/ pantothenate Salmonella strain which in our hands did not respond to aspartic acid. As we have not heard from him, would you please remind him to let me know what the story is on this strain?

I am sorry that things did not work out any better at present. I am looking forward to hear what you find with these mutants.

Give my best regards to Esther and Norton.

Sincerely yours,

Werner.

Werner K. Maas

WKM/hl

enc.

P.S. [illegible]

Key to TS Pant Mutants

KIt = temp. sens pant

h = histidine

p = proline

tr = tryptophane

cyst = cysteine

m = methionine

thr = threonine

Strain	Characteristics
KIt-h2-thr 9	amino acid + pant requirements absolute + stable. grows poorly at r.t.
KIt-h2-p2	somewhat leaky for p requ. grows poorly at r.t. other requ. OK
KIt-h2 cyst 11	unstable for cyst requ., not unstable for h requ. grows [illegible] at r.t. responds poorly to meth. [illegible]
KIt [illegible] 2-m 12	slightly unstable for pant requ. Am. ac. requ. OK grows well at r.t.
KIt-h1-tr 6	slightly unstable for pant requ. Am ac requ OK, grows fairly well at r.t.
KIt-tr1-h3 1	slightly unstable for pant. Am ac requ OK grows fairly well at r.t.
KIt-p-h4 8	slightly leaky for p requ. other requ. OK. grows [illegible] at r.t.
KIt-p-tr	slightly leaky for p. slightly unstable for pant. grows fairly well at r.t.

KI h2 | 2

KI QT p | 3

KIT p TR | 4

KIT h2 p1 | 5

K, iR1 | 7

KI h2 arg | 10

KIT h2

KIQTh W18 | 11